

## Abstract

**Objective:** The aim of this study was to determine the relationship of personality factors and general self-efficacy with agency and pathway hope for treatment. **Method:** The number of 350 self-referred addicts to treatment centers in Isfahan City was chosen through random cluster sampling. Then, the three following questionnaires entitled personality traits of NEO, Sherer and Maddux's General Self-Efficacy Scale, and Snyder Adult Hope Scale were administered to them. **Results:** The results showed that personality factors and general self-efficacy were correlated with hope for treatment. As well, dimensions of neuroticism and conscientiousness, and by far, self-efficacy had the predicative power of hope for treatment. **Conclusion:** Personality factors and general self-efficacy are useful for the estimate of operative and strategic hope for treatment in addicts.

**Keywords:** Personality Factors, General Self-efficacy, Agency Hope for Treatment, Pathway Hope for Treatment

# The Relationship of Personality Factors and General Self-Efficacy with Agency and Pathway Hope for Treatment in Addicts

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## Introduction

Taking a realistic look at the issue of addiction and substance abuse, one will easily find that drug abuse has existed for centuries and no country has been spared from the epidemic spread of this issue (cited in Hassanshahi, 2004). Iran is one of the leading countries in the development of mental health structure, particularly in relation to national structures of addiction in the Ministry of Health and Medical Education through the integration of mental health into primary health care. With the development of a disease-oriented approach to drug addicts, the Ministry of Health and Medical Education has started the integration of substance abuse prevention and treatment programs in primary health care system since 2004 in order to provide the possibility of the treatment of addicts by general practitioners and educated specialists. The increasing growth of treatment centers in provinces towards the ease of access to facilities, the entrance of the Ministry of Health and Medical Education into prevention and treatment of drug addiction, and the spread of medicinal and psychological treatment are categorized into the positive measures taken in the country (Saber Zafarghandi, 2010). It seems that despite many studies being conducted on the identification, prevention, and treatment of drug abuse over the past few years; there is still a long way to achieve the ultimate goal, especially in the area of treatment because the concept of addiction is a multidimensional and multifaceted phenomenon (cited in Hassanshahi, 2004).

Many researchers have explored the role of personality traits and dimensions in addiction. These studies suggest that personality traits are effective in the initiation, spread, and persistence of drug dependence (Ball, 2004). Studies based on Costa and McCrae's five-factor model of personality (1998) illustrate the relationship between drug addiction and personality traits (Walton & Roberts, 2004). According to Fisher, Elias & Ritza's model (1998), it was found there are high neuroticism and low conscientiousness are positively correlated with addiction relapse. Turiano, Whiteman, Hampson, Roberts, Mroczek (2012), however, found that high levels of neuroticism, extraversion, openness to experience, and low levels of conscientiousness and agreeableness predict substance abuse. Having conducted an organized clinical interview on 41 addicts under methadone treatment, Ball & Cecero (2001) reached the conclusion that personality traits as the most important factors not only play an important role in addiction abstinence but they also play a pivotal role in the acquisition of coping skills and relapse prevention.

Albert Bandura's social cognitive theory holds a factorial view about personality, meaning that humans have the ability to exercise control over their own lives. Bandura (1989) believes that human beings are autonomous, innovative, insightful and self-organized and take advantage of the power to influence their actions in order to bring about the desired outcomes. How people act in a particular situation depends on the interaction relationship of cognitive

and environmental conditions. People with high self-efficacy believe that they are able to do something to change environmental events. In contrast, people with low self-efficacy think that they cannot take important actions (Feist & Feist, 2008). Self-efficacy expectations are the special beliefs that represent people's belief in their ability to exhibit certain specific behaviors. In other words, if smokers believe that they are able to quit smoking, they will have a greater incentive to do so (West, 2009). Kadden & Litt (2011) showed that self-efficacy plays an important role in the treatment of substance abuse as a predictor of outcome or as an intermediary. Martinnis et al (2010) found that there is a potential relationship between self-efficacy and smoking abstinence. Findings show that those smokers who hold low levels of self-trust exert lower levels of self-efficacy when exposed to internal and external stimuli. Tate et al (2008) showed that poor self-efficacy provides the conditions for substance abuse. Diclemente, Fairhurst & Piotrowski (1995) concluded that self-efficacy is a mediating variable that causes success in the modification of addictive behaviors and has an important role in predicting the ability to abstain from substance abuse. Abolghasemi (2009) showed that the component of general self-efficacy is one of the best predictors of tendency towards substance abuse.

Today, consequences of various drug therapies are considerably taken into account in addition to drug abstinence in addicts and some issues such as hope and goal-orientation in the addicts under way for recovery are assigned importance, as well (Beigi, 2011). Hope is a mental process with two components of agency thinking, and pathways thinking. At first, individuals select their goal and, then, they stick to the motivation and determination required for movement in the pathway (Pedrotti, Edwards & Lopez, 2008). Hope is the process by which individuals: (1) set their goals, (2) select some strategies to achieve them and (3) create required motivation to implement these strategies and remain stable during the pathway. These three components of hope model are known as goals, pathways thinking, and agency thinking. Pathway thinking consists of the methods and techniques that are used to achieve the objectives. Agency thinking includes the beliefs or thoughts that individuals have in their ability for the initiation and the maintenance of their progress in the selected route to reach their goals. These thoughts are manifested in positive self-statements such as "I can do this" or "I will not give up". Goals are the endpoint of agency and pathway thinking and of all the behaviors that are naturally linked with planning and desired outcomes (Snyder, 1994). In other words, almost all of what a person does is to achieve one goal. Goal includes everything that a person is willing to do, experience, or create (Snyder et al., 2002). The three components of hope (goals, pathway thinking, and agency thinking) interact with each other (Carr, 2008). Setting important goals increases motivation and, in turn, this activated motivation may help to find the route (Snyder, Irving & Anderson, 1991). According to Snyder (2000), hope is not a passive excitement which emerges only in the dark moments of life, but a cognitive process by

which individuals actively pursue their goals. Hope concerns goal-oriented behavior, and it means that people can find their route to achieve their goal using some skills. A considerable number of studies have shown that negative emotional states (e.g., frustration) are among the most important factors leading to drug use relapse (Marlatt & Witkiewitz, 2005). Research conducted on the role of hope and positive thoughts in the achievement of goals shows that high levels of hope are observed in those who have successfully passed the stages of drug dependence treatment (Strack, Carver & Blaney, 1987). In a study on 20 female addicted treatment-seekers, Raeasian, Golzari & Borjali (2011) showed that treatment based on hope training is effective in the decrease of depression and relapse prevention in the drug dependent women seeking for treatment.

In general, research shows that hope is one of the most important components of mental health; however, just in recent years, limited attention has been paid to it in Iran. The review of related literature resulted in no explicit study that has explored the relationship of personality and self-efficacy with hope for treatment; therefore, the main research question in the present study was formulated as: is there any significant relationship between personality and general self-efficacy and hope for treatment (operative and strategic hope)?

## **Method**

The present study was a correlation type study which falls into descriptive categories. The whole addicts self-referring to treatment centers situated in Isfahan City from September 22, 2012 to December 22, 2012 constituted the statistical population of the study. Amongst them, the number of 350 addicts was chosen through random cluster sampling. To this end, two areas among the municipal areas of Isfahan city were randomly selected; then, the list of rehabilitation centers situated in the two areas was prepared and the number of 5 centers was randomly selected. Thereafter, the number of 70 patients was randomly selected from each center which equals to a total of 350 patients (288 males and 62 females) for the final analysis.

## **Instrument**

1. Short Form of NEO Personality Inventory: this scale was developed by McCrae & Costa (2004) and consists of 60 items which evaluate five dimensions of personality, namely neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Each factor contains 12 items. To respond to the items, each participant selects his/her favored choice through a 5-point Likert scale (from strongly disagree to strongly agree). The scoring procedure is in this way that zero point is given to strongly disagree, one point to disagree, two points to no idea, three points to agree, and four points to strongly agree whereas this procedure is reversed in some items so that four points is assigned to strongly disagree, three points to disagree, two points to no idea, one point to

agree, and no point to strongly agree. The minimum and maximum scores for each subscale is respectively 12 and 60. This test is suitable for people over 17 years. In a study for the revision of the NEO Personality Inventory, McCrae & Costa (2004) administered the short form of the test to 1492 adults and reported Cronbach's alpha coefficient for the five dimensions of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness as .86, .80, .75, .69, and .79, respectively while Cronbach's alpha coefficient for the five dimensions was obtained equal to .73, .73, .70, .70, and .78, respectively.

2. Sherer & Maddux's General Self-Efficacy Scale: this questionnaire was developed by Sherer and Maddux and contains 17 items which are scored through a Likert scale in such a way that 1, 2, 3, 4, and 5 points are assigned to the alternatives of strongly agree, agree, no idea, disagree, and strongly disagree, respectively. Among the 17 items, the items numbered 3, 8, 9, 13, and 15 gain higher points from left to right while the rest gain higher scores from right to left and higher scores represent higher levels of self-efficacy. Therefore, the highest score one can obtain from this scale is 85 and the lowest one is 17. Sherer & Maddux (1982) reported the Cronbach's alpha coefficient of the scale equal to .86. The reliability coefficient of this scale has been reported to be .76 and .79 through Guttman split-half method and Cronbach's alpha, respectively. Jalali (2009) evaluated the reliability of the questionnaire on a sample of 41 students and came to the values of .74 and .69 via Cronbach's alpha coefficient and test-retest method within a two-week interval. In the present study, Cronbach's alpha coefficient for general self-efficacy was obtained equal to .85.

3. Snyder Adult Hope Scale: this questionnaire was developed by Snyder et al (1991) to evaluate the hopefulness of people aged 15 years and older and consists of 12 items. Among these items, four items evaluate agency thinking, four items measure pathway thinking, and four items are distracters. The score of hope is obtained from the sum of these two subscales; therefore, the total can range from 8 to 32. A continuum from definitely false to definitely true has been considered for answering the items which takes a short time. The items numbered 3, 5, 7, and 17 are distracters and no score is assigned to them; the items numbered 2, 9, 10, and 12 are related to the agency subscale; and the items numbered 1, 4, 6, and 8 tap into the pathway subscale. Snyder et al. (2002) have reported the reliability of the whole questionnaire, agency subscale, and pathway subscale respectively equal to .85, .81, and .74 through test-retest method after a three-week interval. Kermani (2011) obtained the reliability of coefficient of this scale equal to .86 and .81 through Cronbach's alpha and test-retest method. In the present study, Cronbach's alpha was .80 and .73 for agency hope and pathway hope, respectively. It is noteworthy that Snyder's hope scale was used for hope for treatment.

## Results

From the entire 350-participant sample, the number of 29 participants (equivalent to 8.3%) was illiterate or had just primary school education, 66 participants (equivalent to 18.9%) had guidance school education, 148 participants (equivalent to 42.3%) had secondary education or diploma degree, 64 participants (equivalent to 18.2%) had educational degrees higher than diploma, and 43 participants (equivalent to 12.3%) did not announce their education level.

In terms of gender, 288 participants (equivalent to 82.3%) were males and 62 participants (equivalent to 17.7%) were females; and in terms of marital status, 111 people (equivalent to 31.7%) were married, 191 individuals (equivalent to 54.6%) were single, and 48 ones (equivalent to 13.7%) did not answer this question. The number of 57 participants (equivalent to 16.3%) was in the age group of 25 years and younger, the number of 158 ones (equivalent to 45.1%) was in the 26-35 age group, 86 participants (equivalent to 24.6%) was in the 36-45 age group, 47 people (equivalent to 13.4%) in the age group of 46 years and older, and two persons did not announce their age.

Descriptive statistics of the variables are presented in the following table.

**Table 1: Descriptive statistics for the variables**

<i>Variables</i>	<i>Mean</i>	<i>SD</i>
<b>Neuroticism</b>	23.16	7.2
<b>Extraversion</b>	26.76	6.84
<b>Openness to experience</b>	29.88	6.24
<b>Agreeableness</b>	31.92	6.36
<b>Conscientiousness</b>	32.28	6.72
<b>Agency hope</b>	38.04	6.72
<b>Pathway hope</b>	38.16	7.44

Pearson's correlation coefficient was used to investigate the relationship of personality factors and self-efficacy with hope as follows.

**Table 2: Pearson's correlation coefficient for personality factors and self-efficacy with hope**

<i>Variables</i>	<i>Agency hope</i>		<i>Pathway hope</i>	
	<i>R</i>	<i>Sig.</i>	<i>R</i>	<i>Sig.</i>
<b>Neuroticism</b>	-.70	.0005	-.67	.0005
<b>Extraversion</b>	.51	.0005	.45	.0005
<b>Openness to experience</b>	.39	.0005	.35	.0005
<b>Agreeableness</b>	.49	.0005	.45	.0005
<b>Conscientiousness</b>	.65	.0005	.57	.0005
<b>General self-efficacy</b>	.72	.0005	.68	.0005

As it is observed in the table above; neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness are significantly correlated with agency hope and pathway hope for treatment ( $P < .001$ ).

Multivariate regression analysis was used to predict the agency hope for treatment based on five dimensions of personality and self-efficacy, as follows.

**Table 3: Summary of the model and regression coefficients for agency hope based on personality dimensions and self-efficacy**

<i>Personality traits</i>	<i>B</i>	<i>SD</i>	$\beta$	<i>t</i>	<i>Sig.</i>	<i>R</i>	<i>R</i> <sup>2</sup>
<b>Constant</b>	2.92	.23	-	12.39	.008		
<b>Neuroticism</b>	-.43	.05	-.45	-9.1	.0005		
<b>Extraversion</b>	.06	.05	.06	1.35	.18	.75	.56
<b>Openness to experience</b>	-.02	.05	-.02	-.4	.69		
<b>Agreeableness</b>	.06	.05	.05	1.2	.23		
<b>Conscientiousness</b>	.31	.06	.3	5.55	.0005		
<b>General self-efficacy</b>	.32	.05	.35	6.49	.0005	.78	.61

As it is observed in the above table, neuroticism ( $P < .001$ ,  $\beta = -.45$ ) and conscientiousness ( $P < .001$ ,  $\beta = .3$ ) were two significant predictors of agency hope for treatment in the first stage which account for 56.4% of the variance of agency hope. In the second stage, general self-efficacy ( $P < .001$ ,  $\beta = .35$ ) was added and the variance justifying the changes in agency hope increased to 61.2%.

Hierarchical multiple regression analysis was used to predict pathway hope for treatment based on five dimensions of personality as follows.

**Table 4: Summary of the model and regression coefficients for pathway hope based on personality dimensions and self-efficacy**

<i>Personality traits</i>	<i>B</i>	<i>SD</i>	$\beta$	<i>t</i>	<i>Sig.</i>	<i>R</i>	<i>R</i> <sup>2</sup>
<b>Constant</b>	3.28	.25	-	13.21	.0005		
<b>Neuroticism</b>	-.46	.05	-.49	-9.08	.0005		
<b>Extraversion</b>	.03	.05	.03	.63	.53	.70	.49
<b>Openness to experience</b>	-.01	.05	-.01	-.24	.81		
<b>Agreeableness</b>	.06	.05	.05	1.07	.28		
<b>Conscientiousness</b>	.22	.06	.22	3.68	.0005		
<b>General self-efficacy</b>	.31	.05	.35	5.93	.0005	.73	.53

As it is observed in the above table, neuroticism ( $P < .001$ ,  $\beta = -.49$ ) and conscientiousness ( $P < .001$ ,  $\beta = .22$ ) were two significant predictors of pathway hope for treatment in the first stage which could explain 49% of the variance of agency hope. In the second stage, general self-efficacy ( $P < .001$ ,  $\beta = .35$ ) was added and the variance justifying the changes in pathway hope increased to 53%.

## Discussion and Conclusion

The present study aimed to determine the relationship of personality factors and general self-efficacy with hope for treatment (agency hope and pathway hope). Based on the findings from this study, it can be concluded that there is a significant relationship between personality factors and hope for treatment (agency hope and pathway hope). This finding is consistent with that of Turiano et al (2012), Ball & Cecero (2001), and Fisher et al (1998). In the mentioned studies, it has been concluded that personality traits play an important role in the process of addiction treatment and prevent relapse. To explain the relationship between each of the Big Five personality factors and hope for treatment, one can infer that people with high degree of neuroticism exude negative attitudes (Clark & Watson, 1991) and lay considerable emphasis on negative life events (Tuersky & Griffin, 1991). People with low levels of hope also tend to persist in inefficient agency and pathway thinking. They approach goals with negative emotional states and concentrate on failure instead of success (Snyder, 1995). People with high levels of extraversion are ready to accept cognition and positive emotions (Eysenck, 1981) and put emphasis more on positive life events (Tuersky & Griffin, 1991). People with high levels of hope approach goals with positive emotional states and believe that they are able to learn lessons from past successes and failures (Snyder, 1995). Openness to experience is related to innovative situations and creativity communication (Mowen, 2000). According to Snyder (2000), one can apply his/her own creative forces towards the improvement of life. In fact, people with high hopes are more creative in finding alternative pathways to achieve goals (Snyder, 1995). An agreeable person is in principle philanthropist and optimist (Costa & McCrae, 1998). Similar to optimists, people with high levels of hope have positive expectations, of course, they are able to generate pathway thinking to achieve goals (Snyder, 2000). Conscientiousness is associated with features like perseverance (Barrick & Mount, 1991). Such people enjoy better mental health due to some characteristics such as efficiency and effort to be successful (Penley & Tomaka, 2002). People with high hopes also set such goals that need more effort to pursue their goals (Snyder, 1995).

Since, in the present study, there was a significant relationship between the big five personality traits and both dimensions of hope (agency and pathway) are necessary in the establishment and determination of the degree of hope (Snyder, 2000), the existence of a significant relationship between big five personality traits and both subscales of hope (agency and pathway hope) seems reasonable.

Similarly, the results of this study showed that self-efficacy was significantly related with agency hope and pathway hope for treatment. As general self-efficacy and hope are both the components of mental health (Feldman & Snyder, 2005), the availability of a significant correlation between self-efficacy and the components of hope is plausible. The results of the present study also showed

that the dimensions of neuroticism and conscientiousness could significantly predict hope for treatment which is consistent with the findings of the studies carried out by Enns & Cox (1997) and Saklofske, Kelly & Janzen (1995). The findings of the aforementioned studies implicate that frustration is predicted positively by neuroticism and negatively by conscientiousness. This finding is consistent with that of Velting (1999). In the same way, it was found that people who reported high levels of frustration obtained lower scores in conscientiousness. In a review of a 3256-sample of drug users, Quirk & McCormick (1998) found that as neuroticism scores are obtained higher and conscientiousness are obtained lower, higher levels of symptoms of frustration, depression, impulsiveness, and multiple use of substances are at play. The majority of the studies carried out on the relationship between the five factor model of personality and mental health factors (Costa & McCrae, 1980; Deneve & Cooper, 1998; Hayes & Joseph, 2003) have shown that neuroticism is negatively associated with mental health. Since hope is one of the components of mental health (Feldman & Snyder, 2005, 2005) and a positive relationship has been reported to exist between mental health and conscientiousness (Deneve & Cooper, 1998, Penley & Tomaka, 2002; Hayes & Joseph, 2003), the consistency of the results of the present study with these ones can be confirmed. To interpret the correlation between the Big Five personality and hope for cure, one can argue that that emotional instability plays an important role in the growth and stability of the negative mood. Several studies, including Mak, Blewitt & Heaven (2004) have shown that people with high neuroticism assess low negative stimuli just like severe negative pressures. Furthermore, neuroticism is associated with negative emotions (Furnham & Cheng, 1997). Tversky & Griffin (1991) believe that positive emotions are associated with personality traits in a way that neurotic individuals emphasize negative life events and experience less of positive emotions. In the five factor model of personality, the components of neuroticism include: anxiety, aggression, depression, self-worry, impulsiveness, and vulnerability (Garousi Farshi, 2001). Conscientiousness has a positive correlation with control capability, positive emotion, joy, and hopefulness (Penley & Tomaka, 2002). In addition, conscientiousness can be a predictor of hope (Deneve & Cooper, 1998). Conscientiousness provides the conditions for success and, thereby, is followed by an increase in hope (Deneve & Cooper, 1998; Penley & Tomaka, 2002). In line with Hayes & Joseph's findings (2003), people who gain higher scores in conscientiousness are more likely to act effectively in society and achieve their goals. The achievement of goals, in turn, will lead to higher levels of hope. Considering the fact that the components of conscientiousness in the five factor model of personality include: competence, discipline, dutifulness, self-discipline, attempts to progress, and thoughtfulness (Garousi Farshi, 2001), the relationship of this dimension with high level of hope (agency hope and pathway hope) is reasonable.

In addition, the results of the present study showed that general self-efficacy can significantly predict hope for treatment beyond the Big Five personality traits. This result is in line with the research findings obtained by Kadden & Litt (2011), Martinnis et al. (2010), Tate et al (2008), and Diclemente et al (1995). In the above-mentioned studies, it has been concluded that poor self-efficacy is an important predictor of relapse to drug use. In this way, when faced with undesirable and stressful events, people with high self-efficacy are more stable and do not accept negative thoughts about themselves and their abilities; accordingly, the feeling of self-efficacy helps people resist peer pressure and drugs and control their behavior.

In order to further illustrate the dominance of the power of general self-efficacy in predicting the degree of hope (agency hope and pathway hope) for treatment, one can suggest that the two variables of self-efficacy and hope have commonalities which can be one of the most important reasons of the increased predictive power of self-efficacy. Bandura (1989) has defined self-efficacy as the beliefs about one's ability to organize and pass the action routes in order to achieve goals. According to Snyder (1994), hope is also a positive expectation for the achievement of goals. Snyder defines agency hope not only as mental energy concentrated on goals, but also as a sense of determination to achieve a goal. Such a goal-oriented motivation is realized in such sentences as, "I can do this", "I will get it" or "I will not give up". People with high level of pathway hope take several routes into consideration to deal with possible obstacles. In contrast, people with low level of pathway hope are not equipped with alternative solutions to achieve their goals (Snyder, 1994). Bandura (1989) suggests the idea that high levels of self-efficacy help individual keep on their efforts to achieve their goals whereas low levels of self-efficacy engender frustration and hopelessness in people. People with low self-efficacy beliefs avoid obstacles instead of coping with them and unrealistically set high criteria for themselves. They try to meet high expectations in contrast with their abilities and, thereby, experience consecutive failures which engender feelings of worthlessness and hopelessness in them. People with high hopes usually seek the goals that are followed by a degree of uncertainty and difficulty (Snyder, 1994). People with high self-efficacy also opt for more difficult goals. In fact, they pay attention to situations and circumstances rather than look at barriers (Schwarzer & Luszczynska, 2007).

In sum, it appears that the addicts with higher hope for treatment are more goal-oriented and feel more committed to treatment goals such as maintenance and continuation of the treatment and abstinence from drug use. They coordinate their behavior with the goal that they have personally selected. In contrast, people with low level of hope for treatment are not able to follow their goals, resign the treatment process and even are likely to relapse into previous addictive behaviors. Therefore, it is necessary for practitioners to conduct an extensive personality evaluation on addicts before the start of treatment and take into

account this point that people with high neuroticism and low conscientiousness have low degrees of hope for treatment and, thereby, they are more at risk of exclusion from treatment. Therefore, practitioners can plan hope-based interventions for them if necessary. Furthermore, since it was revealed in the present study that general self-efficacy is a stronger predictor of hope for treatment compared to the big five personality traits, it is better to concentrate on improving addicts' efficacy beliefs and consider addicts as the main source of change so that the effectiveness of different types of rehabilitation programs can come true.

One of the limitations of the present study was that the study was conducted on the substance abusers of Isfahan city who referred to the treatment centers in that city. Therefore, necessary precautions should be taken in generalizing the results of the study. It is suggested that similar studies get conducted on the addicts under different treatment methods. Following researchers are also suggested to include non-clinical participants in their surveys to determine whether the correlations obtained in this study are valid in other situations.

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